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L3: Entry 1 of 1

File: DWPI

Oct 31, 1990

DERWENT-ACC-NO: 1990-328647

DERWENT-WEEK: 199044

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TITLE: Surface coil for diagnostic NMR appts. - has varying width for matching spacing of examined part to maintain max. signal=to=noise ratio

Basic Abstract Text (1):

The coil (19) has a number of conductor sections (19a...19g) coupled together and to a reception circuit via respective switches, the different switch positions determining the surface configuration enclosed by the coupled conductor sections. The outer periphery of the coil (19) has a width which varies over the length of the coil (19), for matching the variations in the spacing of the examined part, e.g. the spine, so that max. signal to noise ratio is obtained over the full length of the examined part.

Equivalent Abstract Text (1):

The nuclear magnetic resonance appts. for examining a patient has a device for generating a fundamental magnetic field, a device for generating a number of gradient fields in which the patient is disposed, and an induction device for inducing nuclear magnetic resonance signals in the patient. A surface coil is connected to a tuning circuit for detecting and transmitting the nuclear magnetic resonance signals. The surface coil having a number of conductor sections arranged relative to each other and adapted for circumscribing different areas, regions and geometries of a patient in a number of respective combinations. The surface coil has a variable width so that the combinations geometrically conform to a local region of interest. A switch selectively electrically connects different groups of the number of conductor sections together so that different areas and different regions of the patient can be examined without physical displacement of the conductor sections forming the combinations. The switching is adapted to electrically connect a combination so formed to the tuning circuit. USE/ADVANTAGE - Partic. for medical imaging using adjustable surface coil for NMR signals. For tomography and spectroscopy. Better contrast obtd. by improved signal to noise ratio of subject emitted signals, with smaller measuring field, and slight penetration depth.

Standard Title Terms (1):

SURFACE COIL DIAGNOSE NMR APPARATUS VARY WIDTH MATCH SPACE PART
MAINTAIN MAXIMUM SIGNAL=TO=NOISE RATIO

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RMIC	Draw Desc	Clip Img	Image
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Term	Documents
SIGNAL	3154026
SIGNALS	1590140
TO	38843
NOISE	631622
NOISES	54771
NOIZE	233
NOIZES	11
RATIO	1675201
RATIOS	291835
(2 AND ((SIGNAL ADJ TO) ADJ NOISE ADJ RATIO)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	1
(L2 AND (SIGNAL ADJ TO ADJ NOISE ADJ RATIO)).USPT,PGPB,JPAB,EPAB,DWPI,TDBD.	1

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L1: Entry 5 of 12

File: USPT

Jul 22, 2003

DOCUMENT-IDENTIFIER: US 6597939 B1

TITLE: Method and apparatus for coordinating an event to desired points in one or more physiological cycles

Brief Summary Text (6):

With respect to magnetic resonance imaging (MRI) images, a plurality of images often need to be taken of adjacent slices of the patient. When imaging parts of the body where the motion of the patient, for example due to the patient's breathing, can affect the quality of the images, care needs to be taken such that images of adjacent slices are taken with as little motion of the body between images as possible. Prior techniques for effecting MRI images of a patient's thorax and upper abdomen region have included respiratory gating (Ehman et al (December 1994) "Magnetic Resonance Imaging with Respiratory Gating: Techniques and Advantages" AJR:143).

Detailed Description Text (32):

Additional features can be added to the firing handle, for example to provide feedback to a user. Multiple LED's can be used to provide visual feedback and/or a buzzer can be used to provide audio feedback. In a specific embodiment, a red LED lights when the collimator button is pushed, a yellow LED lights when the rotor-up button is pushed, and a green LED lights after the x-ray beam is fired. Further embodiments can utilize, for example, a two color LED which lights a first color to indicate the user has pressed the fire button and lights a second color to indicate the x-ray beam has fired. In addition, a buzzer can sound when the x-ray beam is fired to indicate it is safe for the user to enter the patient's room. An additional safety feature can be added to prevent the x-ray beam from firing again for at least a predetermined delay, for example one hour. This is to prevent unintentionally overdosing the patient with x-ray radiation. *and i feel*

Other Reference Publication (1):

Ehman et al. (1994) "Magnetic Resonance Imaging With Respiratory Gating: Techniques and Advantages" AJR:143.